

# Working Hard For You

Under the Safe Drinking Water Act (SDWA), the U.S. Environmental Protection Agency (USEPA) is responsible for setting national limits for hundreds of substances in drinking water and also specifies various treatments that water systems must use to remove these substances. Each system continually monitors for these substances and reports to the USEPA if they were detected in the drinking water. USEPA uses this data to ensure that consumers are receiving quality drinking water.

This publication conforms to the regulation under SDWA requiring water utilities to provide detailed water quality information to each of their customers annually. We are committed to providing you with this information about your water supply because customers who are well informed are our best allies in supporting improvements necessary to maintain the highest drinking water standards.



Augusta-Richmond Utilities Department  
2822 Central Avenue  
Augusta, Georgia 30909

We have completed a source water assessment and a groundwater protection program, but because of security reasons we are prohibited from making them available to the public at large. If you need to find out more about the source water assessment or more information about this report, or for any questions relating to your drinking water, please feel free to contact :

**Mr. Brantley Kuglar, Water Quality Superintendent, at (706) 842-1925**  
**Ms. Brenda Johnson, Lab Manager, at (706) 821-4237.**

*We would like to extend our appreciation to the following people and community organizations for their support and their photo contributions to this brochure: Augusta Museum of History - [www.augustamuseum.org](http://www.augustamuseum.org), The Family Y - [www.thefamilyy.org](http://www.thefamilyy.org), Danielle Seward of Christian Studios, and Joanna Williams.*



## ANNUAL Water Quality REPORT



Water testing performed in 2007



# Augusta Utilities Department Says Goodbye

Max Hicks, Director of the Augusta Utilities Department, recently retired after 17 years of public service. Mr. Hicks was committed to providing our customers with water that “means or exceeds” all state and federal requirements. Though Max has retired, that commitment has not wavered.

We are proud to report that during the year 2007, the drinking water provided to our customers met or surpassed all federal and state drinking water standards. We remain dedicated to providing you with a reliable supply of high quality drinking water. We are also proud to report that all of our water treatment plants won either Gold awards or Platinum awards given by the Georgia Association of Water Professionals for the year 2007. These awards are presented to water treatment plants that had no regulatory violations during the year.

This annual report is intended to keep our customers informed about the quality of your drinking water and includes information describing where your drinking water comes from, the constituents found in your drinking water and how the water quality compares with the regulatory standards.

We look forward to serving our customers again next year.

**Drew Goins , Interim Director,**  
*Augusta Utilities Department*



# Quality Drinking Water Is Not Only Our Business, It Is Our Commitment

Once again we are proud to present to our valued customers, our annual water quality report. This report covers all testing completed from January 1, through December 31, 2007. We are happy to report that we met or exceeded all state and federal drinking water regulations. As always, we are committed to delivering to you only the best quality drinking water. To satisfy that goal, we remain ever vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all of our water users.

# How Is My Water Treated And Purified?

The treatment process consists of a series of steps. First, raw water is drawn from our reservoir and sent to a mixing tank where chlorine is added to pre-disinfect the water. Then, aluminum sulfate and polymer are added to the mixture. The addition of these substances cause small particles to adhere to one another (called “floc”) making them heavy enough to settle out as the water slowly moves from one end of the basin to the other. At the end of the basin, the clear water travels over weirs and into flumes that take the water to the filters. The water is then filtered through layers of anthracite, gravel and silicate sand. As smaller, suspended particles are removed, turbidity disappears and clear water emerges. Chlorine is added again as a precaution against any bacteria that could form in the distribution system. (We carefully monitor the amount of chlorine, adding the lowest quantity necessary to protect the safety of your water without compromising taste.) Finally, lime (used to adjust the final pH and alkalinity), fluoride (used to prevent tooth decay) and a corrosion inhibitor (used to protect distribution system pipes) are added before the water is pumped to sanitized, underground clear wells, water tanks and into your home or business.

# Where Does Our Water Come From?

The City of Augusta water customers are very fortunate because we enjoy an abundant water supply from 2 sources. The Highland Avenue Water Treatment Facility draws water from the Savannah River, which is pumped via the Historic Augusta Canal Pumping Station to our reservoirs, which hold about 125 million gallons of water. Our third water source is from the Crutaceous Aquifer hundreds of feet below ground in south Augusta. Combined, our treatment facilities provide roughly 15.5 billion gallons of clean drinking water every year for our customers. Our second water source comes from our new Max Hicks Plant on Tobacco Road which gets water from the Savannah River also and provides 15 million gallons of water to our customers in south Richmond County.

# Health Information For Those With Special Needs

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).



# Big Things Happening

The Augusta Utilities Department and a few other organizations throughout the state have been selected to launch a new water conservation program called waterSmart. This program was developed by the Department of Natural Resources in conjunction with many other organizations known as the Education Roundtable. Augusta is one of six locations selected to pilot this program, which seeks to encourage people to conserve water by reducing their outdoor water use. More information will be coming in the near future concerning this program.





# What’s In My Water?

We are pleased to report that during the past year, the water delivered to your home or business met or exceeded all state and federal drinking water requirements. For your information, we have compiled a list in the table below showing what substances were detected in our drinking water during 2007. Although all of the substances listed below are under the Maximum Contaminant Level (MCL) set by the USEPA, we feel it is important that you know exactly what was detected and how much of the substance was present in the water.

REGULATED SUBSTANCES				GROUND WATER	HIGHLAND PLANT	MAX HICKS PLANT		
SUBSTANCE (units)	YEAR SAMPLED	MCL	MCLG	AMOUNT DETECTED LOW-HIGH	AMOUNT DETECTED LOW-HIGH	AMOUNT DETECTED LOW-HIGH	VIOLATION	TYPICAL SOURCE
Fluoride (ppm)	2007	4	4	.25-1.36	.60-1.20	.54-1.18	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Chlorine (ppm)	2007	4	4	.84-1.95	.80-2.04	1.11-2.13	No	
Nitrates (ppm)	2007	10	10	N/D -1.7	N/D	N/D	No	Runoff from fertilizer user; Leaching from septic tanks, sewage; Erosion of natural deposits
Total Organic Carbon (ppm)	2007	TT	N/A	N/A	1.1-2.7	1.3-1.6	No	Naturally present in the environment
THMs (Total Trihalomethanes) (ppb)	2007	80		0-76.0	26.3-99.0	0-92.6	No	By-product of drinking water disinfection
Haloacetic Acids (HAAs) (ppb)	2007	60	N/A	0-40.0	22.0-43.0	22.6-24.4	No	By-product of drinking water disinfection
Turbidity¹ (NTU)	2007	TT		N/A	.02-.40	0-.14	No	Soil runoff
Total Coliform	2007	< 5%	0	0	0	0	No	Common in the environment: human and animal waste
Tap water samples were collected for lead and copper analysis from 50 homes throughout the service area								
SUBSTANCE (units)	YEAR SAMPLED	ACTION LEVEL	MCLG	AMOUNT DETECTED (90th Percentile)	HOMES ABOVE ACTION LEVEL	AMOUNT DETECTED VIOLATION	TYPICAL SOURCE	
Copper (ppb)	2007	1,300	1,300	120	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives	
Lead (ppb)	2007	15	0	2.5	0	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives	
Alpha Emitters	2007	15	0	< 2	< 2	No	Erosion of natural deposits of certain radioactive minerals	
Radium (226 + 228)	2007	5	0	< 2	< 2	No	Decay of natural manmade deposits of certain radioactive minerals	

¹Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. During the reporting year, 100% of all samples taken to measure turbidity met water quality standards.



## Table Definitions

**AL (Action Level):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**MRDL (Maximum Residual Disinfectant Level):** The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**MRDLG (Maximum Residual Disinfectant Level Goal):** The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

**MCL (Maximum Contaminant Level):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**MCLG (Maximum Contaminant Level Goal):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

N/A: Not applicable.

N/D: Not detected.

**TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.

**pCi/L (picocuries per liter):** A measure of radioactivity.

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water.

## Drinking Water Tests

To ensure that tap water is safe to drink, the USEPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establishes limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.



The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it can acquire naturally occurring minerals, in some cases, radioactive material; and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

**Microbial Contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

**Inorganic Contaminants**, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

**Pesticides and Herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

**Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems;

**Radioactive Contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the USEPA's Safe Drinking Water Hotline at (800) 426-4791.

## New Arsenic Regulation

Arsenic contamination of drinking water sources may result from either natural or human activities. Volcanic activity, erosion of rocks and minerals, and forest fires are natural sources that can release arsenic into the environment. Although about 90 percent of the arsenic used by industry is for wood preservative purposes, it is also used in paints, drugs, dyes, soaps, metals, and semiconductors. Agricultural applications, mining, and smelting also contribute to arsenic releases. Arsenic is usually found in the environment combined with other elements such as oxygen, chlorine, and sulfur (inorganic arsenic); or combined with carbon and hydrogen (organic arsenic). Organic forms are usually less harmful than inorganic forms.

Low levels of arsenic are naturally present in water-about 2 parts arsenic per billion parts of water (ppb). Thus, you normally take in small amounts of arsenic in the water you drink. Some areas of the country have unusually high natural levels of arsenic in rock, which can lead to unusually high levels of arsenic in water.

In January 2001, the U.S. EPA lowered the arsenic maximum contaminant level (MCL) from 50 to 10 ppb in response to new and compelling research linking high arsenic levels in drinking water with certain forms of cancer. All water utilities are required to implement this new MCL starting in 2006.

Removing arsenic from drinking water is a costly procedure but well worth the expenditure considering the health benefits. For a more complete discussion visit U.S. EPA's arsenic Web site at [www.epa.gov/safewater/arsenic.html](http://www.epa.gov/safewater/arsenic.html)

Because our water has tested negative for arsenic water contamination in our source water assessments, EPD has issued a waiver exempting Augusta from testing Arsenic until December 31, 2010.

## New Sampling Mandated by EPD

Starting in October, 2007, the Augusta Utilities will start sampling at sixteen approved sample locations to meet the USEPA Stage 2 Disinfectants and Disinfection Byproducts Rule. This rule will require sampling thirty two samples taken quarterly and thus far all samples have met EPA MCL requirements.



## Lead in Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Augusta Utilities is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (800-426-4791) or at <http://www.epa.gov/safewater/lead>.

## Health effects for THMs and HAA5s

Some people who drink water containing trihalomethanes and haloacetic acids in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and have an increased risk of getting cancer.

## Cryptosporidium in Drinking Water

Cryptosporidium is a microbial parasite found in surface water throughout the U.S. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100 percent removal. Monitoring of source water and/or finished water indicates the presence of these organisms. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water. In 1999, Augusta Utilities participated in the USEPA ICR Program where our raw water was tested for microbial parasites and our source water results were negative. In 2006, our finished tap was also tested by the state and found to be free of microbial parasites.

*Radon is a radioactive gas that occurs naturally in some ground water. It may pose a health risk when the gas is released from water into air, as occurs during showering, bathing, or washing dishes and clothes. Radon gas released from drinking water is a relatively small part of the total radon in air. Radon is released into homes and ground water from soil. Inhalation of radon gas has been linked to lung cancer, however, the effects of radon ingested in drinking water are not yet clear. Augusta's drinking water has been tested for radon and found to not have any detectable levels.*